Figure 17 A woman finds a way to soak her feet

A health worker helped this woman to solve her problem. She uses a plastic bowl to soak her feet. She was also encouraged to join a self-help group to give her confidence.

3. Develop Discussion Skills

Do not

- simply tell the person what activities he must not do.

Do

- discuss safe ways to do essential activities.

Example:

Farmer has loss of sensation and weakness in his hands.

Health worker explains:

- Nerves are damaged so pain will not warn him of damage.
- Because nerves do not work, farmer must use awareness, inspection and protection.

Health Worker asks:

- What tasks are necessary?
- What tools will the farmer use?
- How can the farmer make the tool handles softer to hold?
- How often will the farmer be able to look at his hands whilst working?
- Can the farmer arrange to do different activities (e.g. milking another person's cows in return for that other person's help in the field)?

Figure 18 A farmer learns to adapt his tools and working habits

The farmer learned to cover the trowel with cloth to soften the handle. He also knows to watch his hands carefully to prevent sudden injury from the sharp end of the trowel.

The farmer covered the handle of this tool with rubber. Rubber makes the handle softer to hold and also prevents the hand from slipping back and forth.

4. Be Ready to Demonstrate

Do not

- expect people to understand spoken instructions

Do

- demonstrate how to conduct whatever inspection and protection practices are necessary.

Example:
Boy has a foot drop and a claw hand.

Health worker explains:

- Why the boy's hand and foot need exercises.

Health worker demonstrates:

- How to do the exercises (also explains how often and for how long the exercises need to be done).

Health worker asks:

- Where will the boy do exercises?
- When will the boy do exercises?
- What might prevent the boy from doing exercises and how will he overcome the obstacles?

5. Encourage People to Help Others with Similar Problems

When people teach others they are more likely to do the things they teach.

Figure 19 Teach people to teach others

This man learned how to help others and formed a Self-Care Group in his village. Such groups can benefit from friendship and encouragement, but can also become Self-Help Groups.

Teaching Check List

It is useful to use check lists because the health worker can focus on an individual's particular needs and be reminded of the important points to discuss. An example of a check list is given as an annex.

What People Need to Know about Protecting Hands and Feet

1. Watch and Think

When people have sensation they do many things without watching their actions, because sensation warns them if actions are not safe. Without sensation people need to learn to watch their actions and think about their activities to prevent wounds.

2. Inspection

People with loss of sensation should examine their hands and feet several times a day but especially before sleeping. If any signs of damage – such as blisters, red or hot spots, cuts, wounds or swelling – are found, they must try to work out what activity caused the damage. They should develop a problem solving habit to avoid dangerous activities.

Understanding Common Risks for the Hand

Pressure When hard surfaces are gripped too tightly pressure can cause wounds: for example, while working with a spade, plough, a hammer or while gripping cycle or motorcycle handles.

Solution

Find ways of padding hard handles to make them soft to hold. This can be done by wrapping cloth or another soft material around them.

Friction Activities where the hand repeatedly slides back and forward over a hard surface causes friction which can result in a blister: for example, rowing boats, grinding corn, pounding maize.

Solution

Pad hard surfaces to give a better grip (padding with rubber is very useful to prevent sliding).

Figure 20 Making tools safe

By covering the handle of this tool with rubber, the farmer has reduced the risk of pressure because the handle is soft to hold. He has also reduced the risk from friction because the hands will not slide backwards and forwards.

Heat Burns are caused during ordinary daily activities: for example, cooking, hot food or drinks, sitting by a fire, smoking, sitting near a running engine.

Solution

Find ways of preventing skin contact with hot surfaces: for example, use spoons for eating, place hot cups or glasses inside another, use thick cloth or pot holders for holding hot utensils, use cigarette holders.

Figure 21 Preventing burns

This woman uses pads to hold hot utensils to protect her hands from burns. She also found a safe way to blow into fire without damaging her eyes or burning her face.

Stab Wounds Sharp rough materials such as splinters of wood, glass, thorns or nails can wound the hands. Sharp tools can also be a danger.

Solution

The hands should be protected with gloves or cloth when doing activities where sharp objects may wound the hand. People should always try and be aware that their hands are in danger.

Figure 22 Preventing sudden injury

This farmer knows his hands are at risk so he takes care not to hold the crop too close to the cutting tool.

How to Protect the Hand When it is Paralysed or Weak

Keep the skin in good condition

Look back to Section 2 to understand how the skin should be kept in good condition through soaking, scraping and oiling.

Prevent stiffness

Figure 23 Massage for weak or paralysed fingers

After soaking, the hands should be well oiled. The oil should be put on both sides of the hands and then rubbed into the skin.

Exercises

Figure 24 Straightening exercise for fingers that are starting to bend (do not allow stiff fingers to be forced straight)

1. After oiling the hands, a weak hand is placed with palm up on a soft flat surface (the thigh of the leg is very good).

2. The edge of the other hand (the side of the hand before the small finger) is placed firmly on the wrist of the weak hand. It is then pushed slowly to the edge of the hand along the palm of the weak hand.

3. When the edge of the hand reaches the fingers of the weak hand the person should count to ten slowly as the edge of the hand moves over and straightens the fingers.

The exercise should be repeated ten times, and should be done at least three times a day.

Figure 25 Exercise for thumbs

1. The thumb of one hand is placed in the space between the thumb and first finger of the weak hand.

2. The person should press gently in the space and count to ten whilst drawing the thumb away from the hand.

The exercise should be repeated ten times, and should be done at least three times a day.

3. The person should grip around the weak thumb so that the flat part of the thumb lies on the top of the hand.

4. The gripping hand is drawn over the joint of the paralysed thumb. This action will force it to straighten. The thumb should be held straight to a count of ten before relaxing.

The exercise should be repeated ten times, and should be done at least three times a day.

Figure 26 Active finger straightening exercises

1. A fist is made with the weak hand. The fist is placed in the other hand so that the knuckles of the weak hand are on the ball of the other hand.

2. The weak hand is slowly forced open.

3. The hand is held in the forced open position as the person counts to ten.

The exercise should be repeated ten times, and should be done at least three times a day.

Passive Finger Straightening Using Splints

Splints can be given to prevent fingers from becoming bent. If fingers are already bent, but can be straightened with gentle pressure (mobile fingers), splints can be helpful to correct the problem. Most people are not able to wear splints during the day because they must use their hands for day-to-day activities. If splints can be worn at night, whilst the person is sleeping, they will help to correct mobile, bent fingers. Splints can be made from POP or simply from a piece of bamboo or plastic pipe. Splints must always be padded to prevent pressure wounds. They should be regularly removed and the fingers examined for signs of pressure. They should only be given to people who can understand the risks. (See also Figure 9 Splinting for finger cracks).

Figure 27 Splints for bent fingers

1. This hand has bent fingers but they can be made straight with gentle pressure.

2. Place the finger in a splint and straighten it with gentle pressure.

3. Fasten Velcro over the knuckles.

4. All the fingers can be kept in splints whilst the person sleeps.

How to Protect the Foot When It Is Paralysed or Weak

Foot Drop

Some people may have foot drop. Foot drop happens when the lateral popliteal nerve is damaged. When people have foot drop they are not able to lift their foot or hold it steady, so when their leg is lifted, the foot hangs loosely. Foot drop can lead to a lot of foot damage if the foot also has a loss of sensation.

Keep the skin in good condition

Look back to Section 2 to understand how the skin should be kept in good condition through soaking, scraping and oiling.

Use a Foot Drop Spring

If referral services are accessible, the person should be sent to get a foot drop spring.

Figure 28 Self-made foot drop spring

If there are no services available, people can make their own foot drop springs. This man made a belt that fits around the top of his leg. He fixed a piece of bicycle tube to the belt. The bicycle tube was then fitted to strong material that fitted round his shoe. The spring protected his foot from hanging loose when the walked.

Exercise for Foot Drop

It is very important that people with foot drop should do stretching exercises to prevent the foot from being pulled into a downward position by the muscles at the back of the leg.

Figure 29 Stretching exercises for foot drop

This boy has learned to do stretching exercises for foot drop.

1. The cloth is placed around the loose foot.

2. The cloth is pulled to force the foot up.

3. The foot is held in position, while the person counts slowly to ten, then the foot is allowed to relax.

4. The person repeats the stretching ten times.

The exercise should be done three times a day.

Understanding common risks for the foot

Pressure Many people are not able to spread their weight evenly over their feet so they develop small areas of high pressure. Each time the foot makes contact with the ground, the tissue in the sole of the foot suffers because of too much pressure. The pressure is not great enough to cause harm immediately and the person does not change his pattern of walking. Eventually the tissue does break down.

Solution

Shoes or sandals with deep, soft insoles (like rubber) will help to reduce pressure.

Friction Sandal straps and the upper parts of shoes can rub the skin. Rubbing causes blistering which can lead to serious wounds in feet with no sensation and dry skin.

Solution

Keep the skin soft and elastic by soaking, scraping and oiling. Avoid using footwear made from hard materials that do not bend easily (like leather or moulded plastic).

Figure 30 Risks of using unsuitable materials

Hard leather straps caused this woman's toe to blister.

Heat Burns are caused when people sit too near to fires or from exhaust pipes on motorcycles.

Solution

Find ways of preventing skin contact with hot surfaces, or being too close to a fire: for example, legs should be tucked away when sitting near fires.

Stab Wounds Sharp or rough materials such as thorns or nails can wound the foot.

Solution

Footwear with hard under soles will help to protect the foot.

Footwear

For people with feet that do not feel, correct footwear can greatly reduce the risk of foot damage and can also assist in the healing of wounds present. However, it is not true to say that any footwear is better than no footwear – in some cases, badly-fitting shoes actually cause wounds on the foot and prevent them from healing.

How to Help People Choose Footwear

If people can choose their own footwear they are more likely to wear it. People should be encouraged to buy their own shoes but they need advice to avoid making the wrong choices.

Before choosing shoes, a clear explanation of the reason for protective shoes should be given. Wherever possible, people should be helped to find shoes that look similar to shoes that others are wearing. Some types of fashionable footwear are very suitable (for example, sports trainers), but others are not.

Common Shoe Types That Must Be Avoided:

- Moulded plastic shoes or sandals (particularly common in India and Bangladesh).
- Shoes that have nailed under shoes.
- Fashion shoes with high heels.
- Sandals that have no restraining back strap.

Repairs to sandals and shoes can be very damaging to the foot. Stitching and particularly nailing damaged parts together can cause problems. Good footwear should be expected to last for around six months after which it should be discarded. Many people in the general population will have footwear repaired repeatedly and so the practice is commonly accepted as normal. However, people with anaesthetic feet should not be encouraged to think that their feet are normal. They do need special care.

Figure 31 Risks of repairing old footwear

Repairing old sandals can be dangerous. The stitching and hardened leather can cause wounds.

Planning for Footwear

Ask the person to stand on a piece of paper and then draw around the person's feet. Give the person the outlines and suggest that when choosing footwear they should check that the outline of the shoe is not smaller (thinner or shorter) than the outline of the foot. The shoe (or sandal) should have:

- A hard sole to prevent penetration by sharp objects on the ground.
- A soft inner sole (this will reduce pressure on the foot while walking).
- Plenty of height around the toes (especially if the person has claw toes).
- If the person has hand or eye impairments it is a good idea to suggest that they buy shoes with Velcro fastenings.

Materials

Where it is available, micro-cellular rubber (MCR) is an excellent material for use as an insole. Ethyl Vinyl Acetate (EVA) is another commonly used material that has good force reducing properties.

A 4mm insole of either MCR or EVA can be placed in most proper fitting footwear if the manufactured insole is removed.

Plastazote is also an inexpensive, commonly used material. It is easy and quick to cut and shape. However, Plastazote should not be used as an insole material because it flattens out very quickly.

Figure 32 A popular and suitable style of sandals for people with anaesthetic feet

These sandals have the following good qualities:

- *Hard neoprene under soles soft MCR soles.*
- *Adjustable, easy to fasten.*
- *Velcro straps over the forefoot.*
- *Adjustable, restraining back strap.*
- *The style is commonly worn in many countries and is not stigmatising.*

Figure 33 An excellent style of shoe for a person with hand impairments

- *The Velcro straps are much easier to manipulate than buckles or laces.*
- *The shoe is deep enough for a good thick insole.*
- *The shoe is also wide fitting with a good toe box to hide the person's deformities.*

SECTION FIVE

Managing POD Activities

Organising Priority Groups

Grouping people into categories will help to remind workers that certain people will need closer examination and more care than others. This can help to ensure that time is shared out according to need. A simple method of colour coding will help to identify different levels of risk. A colour dot can be placed on clients' files and/or against names in a register to alert workers to the possibility of certain problems.

Group 1 High Risk – Red Code

People in this group will need the highest level of care. They should be encouraged to come to the clinic every month or at least once every three months.

People with:

- eye complications.
- present reactions or neuritis, with impairment of less than six months.
- nerve function impairment (NFI – motor sensory impairment) of less than two years.
- presenting with the first or second ulcer (no other ulcers) in the current year.
- first or second ulcer healed in the past year.
- those whose impairments are getting worse.

Group II Medium Risk – Blue Code

People in this group should be seen every three to six months.

- Presenting with the third ulcer (or more) in the current year.
- Most recent ulcer was more than one year ago.
- Mobile claw fingers with loss of sensation longer than two years.
- Foot drop, duration of less than two years.
- Open cracks or fissures.

Group III Lower Risk – Green Code

People in this group should be seen once every six months to one year, if any of the following is present for more than two years, with no problems.

- Deformity.
- Mobile or stiff clawing.
- Foot drop.

Making Use of Available Help

Referral

There are certain problems that some people will have that need hospital care. Find out which hospitals are able to treat leprosy related problems and if possible visit the hospital to meet the staff there. Find out what complications they can treat and what the fees for treatment will be. Also ask whether reconstructive surgery is available and if so, what types of correction can be done.

In some areas there are specialist referral centres or NGOs that offer protective footwear. Some such centres can also offer specially modified footwear for people with deformed feet or for people with ulcers.

Health workers should try and find out what referral services are available and what they offer so that advice can be given to people who need to be referred.

People with the following types of problems will need special care:

Emergencies:

- Severe Reaction Type 1 or Type 2 (See Learning Guide Two)

(Start on steroid and pain killers according to guidelines and refer for further management).

- People in reaction with facial patches.
- People with painful red eyes, or recent loss of visual acuity.
- People with infected ulcers.

(The area where the ulcer is will be hot, red and swollen. The ulcer will have a foul smelling discharge).

- People with anaesthetic hands or feet that are hot, red and swollen, but without any ulcers.

Reconstructive Surgery

The opportunities for reconstructive surgery depend very much on what available services can offer. Some general guidelines are given below for the types of conditions that most surgeons will expect before considering surgery, but every surgeon and every hospital will have their own specific guidelines.

People will usually be considered if:

- PB patients have completed at least three months MDT.
- MB patients have completed at least six months MDT.
- Patient has not had reaction or neuritis for at least six months.
- Patient has not taken steroid treatment for at least three months.

For Specific Procedures

Most surgeons will not operate on complications that have a duration of less than six months. Patients wanting hand or foot correction also have to be certain that they can be away from work for at least one month.

Other requirements are:

- Lagophthalmos lid gap of more than 3mm.
- Claw hand — Hand must be ulcer free.
  Fingers must be mobile (can still be flattened with light pressure).
- Foot drop — Foot must be ulcer free.
- Claw toes — Toes must be mobile (can still be flattened with light pressure).

Setting up Self-Care Groups

Self care groups have been mentioned earlier (see Figure 19 Teach people to teach others). Such groups can be very valuable not only because the members support and encourage each other, but also because they can reduce the time people spend at health posts. Most disabilities can be managed through self-care, but teaching takes up much time. If you can help groups to find the right people to lead them, the demands on your time will be reduced. Self care groups can be found in communities where a number of leprosy affected people live close to each other (people should not have to walk too far to meet others).

The key to a good group is a good group leader.

Qualities of a good leader (could be male or female):

- Understands and practices self-care.
- Intelligent (uneducated people can be very intelligent. Judge by the persons ability to understand, ask questions and solve problems).
- Good listener.
- Hard worker.
- Has ambitions.

After a good leader has been identified, teach him all that is in this Learning Guide. When he is confident that he understands all the different exercises and actions, you can begin to put together the names of others, from the same community, who might be willing to be part of a self-care group. A good number for a group is between ten and 15 people. Smaller groups can also be effective, but larger groups do not function so well. Try and arrange the first meeting where all the people can meet together at the health post or some other convenient place and explain the purpose of forming a group i.e.

- First stage
  - To support each other.
  - To learn from each other.
  - To prevent any worsening of disabilities.
- Second stage
  - All of the above.
  - To form self-help group.

After the first meeting, let the group decide where and when they will meet. Encourage the group to meet at least once a month. When they meet together they should plan to do their soaking, oiling and exercises together whilst the leader gives guidance and leads the discussion. Discussions can be on any topics the group chooses. Often people are happy when they find that the difficulties they face are also experienced by others. Sometimes they can learn from others' experiences. Ask the leader to report back to you from time to time. After a few months, if the group is functioning well, try and guide the leader to a social worker or an NGO where he can get information about forming self-help groups. In some countries (e.g. India) the government has excellent schemes and grants for helping disabled people to set up self-help groups.

Monitoring and Evaluating POD Services

It is important to know how large the disability problem is, not just for each person, but for the whole area. A simple method of keeping track of disabilities amongst people is to use *Impairment Summary Forms. (See Annex 1)*

Annex 1: Impairment Summary Forms

These forms can be used to summarise the information that is usually recorded in Individual Patient Records. The Impairment Summary forms help in the following ways:

- Health workers will know which people need the most help.
- They will be able to plan group sessions for selected people.
- They will know what type of supplies they need to keep in stock.
- They will have information which will allow them to set clear goals.
- They will be able to evaluate their work

There are two forms. One is used to collect information at the start of a programme. This is called the Baseline Impairment Summary Form. The second form is used at either six month or one year intervals. It is called the Review Impairment Summary Form.

The Baseline Impairment Summary Form

The Baseline Impairment Summary Form can be filled in either at the time of a clinic when filling in the individual patient record, or soon afterwards when information can be copied from the individual patient record. The way in which the table is made up allows health workers to see a great deal of information at a glance, rather than having to sort through many patient records.

How to fill the Baseline Impairment Summary Form

Personal Details

A number is needed to identify each entry, so a file number or an ID number is entered. Name and date of birth are also entered, as is the person's treatment status: e.g. MDT (on treatment), RFT or CAC (released from treatment or care after cure). The examination date is very important because it will guide the health worker to set a review date.

Data Entry

Against every person's name there is place to give details about their hands and feet (right and left). Wherever an impairment is found it is graded and the grade is recorded in the correct box for that body part.

Eye Hand Foot Scores

An Eye Hand Foot score is calculated by taking the World Health Organization (WHO) score for each eye hand and foot and adding them together to make a total score. This means that a person could have a maximum EHF score of 12 (such a person would have WHO Grade 2 for each eye, hand and foot).

The Review Impairment Summary Form

After every six months, or at the most, after one year the Review Impairment Summary Forms should be filled in.

The Review Impairment Summary Form is useful because it tells health workers, at a glance how well the POD programme has been working. It is very useful for evaluating programmes. The way in which the review form is filled in is the same as filling in the baseline form. The same people are assessed and the finding for each eye, hand and foot is recorded.

After completing the review form it is compared with the baseline form. Wherever it is found that an impairment has improved, or is completely healed, a blue circle is drawn in the box for that body part. If an impairment has become worse, a red triangle is drawn in the box. The EHF scores are also calculated again with a triangle or circle drawn around the score to show where change has happened.

In the Annex there are blank Impairment Summary Forms that can be copied and used. There are also examples of forms that have been filled in.

These forms can be adapted and utilised according to the available health worker capacity and the context in which leprosy control activities are being carried out.

Annex 1: Impairment Summary Forms

Key For Entries in the Impairment Summary Forms

General

No impairments …….Leave Blank
Not recorded ……..Mark with **X**

Eyes

Lid Gap……Record in millimetres
Red eye if present….Record **Y**
Visual Acuity …….Mark with ? if less than 6/60

Strength

Weak ……..Record **W**
Paralysed .. …Record **P**

Sensation

Record **number** of sensory test sites at which sensation is lost **or** where bone is lost.

Bone Loss

Record **number** of lost toe or finger bones and lost metatarsal or metacarpal heads
If short foot or mitten hand ……Record **S**
If more extensive bone loss ……..Record **A**

Wounds and Cracks

Record **number** of wounds and open cracks